Dear InterPore friends,

Being active in the InterPore community opens up doors across the world. Whether you’re a young researcher starting a career or a ‘seasoned’ researcher looking to expand your field of applications, it usually starts with having a strong network. With the InterPore elections coming up this fall, here is your chance to strengthen your network.

I am happy to have received so many paper highlights. Special attention goes to an (invited) contribution discussing the breathability of face masks. Comments and feedback are welcome through our InterPore forum.

A very nice example of reaching out to society is provided by the SFB1313 project (Germany) with the exhibition “Pretty Porous – Alles Porös” coming up this summer.

Stay healthy!

Matthijs de Winter
Editor-in-Chief
InterPore News

Message from the InterPore Executive Committee

The InterPore Executive Committee has been closely monitoring the development of the COVID-19 pandemic. While many countries are beginning to slowly re-open and the situation in China appears to be under control, it remains to be seen what circumstances will be like in September. Due to all of the unknowns, a task force on e-conferencing has been initiated to develop alternatives to the traditional in-person-only meeting. Right now, the task force is identifying and investigating the many platforms for virtual conferences, and will be presenting their recommendations to the Executive Committee soon.
One option the task force is considering for this year is a hybrid conference which would include opportunities for both virtual and in-person presentations. A decision will be made and communicated with all of you in the May 29th edition of the newsletter. Please withhold any decisions concerning attending InterPore2020 until then if possible. Should we proceed with a portion of the meeting to be held in-person, we will re-open the abstract submission and all participants will be given the choice of either a physical or virtual presentation.

This task force is chaired by Oleg Iliev, Fraunhofer Institute for Industrial Mathematics (ITWM), Germany. Members are:

- Inga Berre, Bergen University, Norway
- Sorin POP, Universiteit Hasselt, Belgium
- Sridhar Ranganathan, Kimberly-Clark Corporation, USA
- Marco Sauermoser, PoreLab, Norway
- Matthijs de Winter, Utrecht University, The Netherlands
- Neerja Zambare, Montana State University, USA

The Task Force is expected to make its recommendations about the choice of the e-conferencing software to the Executive Committee by the end of May.

We sincerely thank you for your patience and understanding, and look forward to a successful meeting with you!

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**Elections 2020: Call for Nominations**

The InterPore Elections are coming up, spanning an election period from 1 - 30 November 2020. With this announcement, we wish to inform the Society members about the details of the election procedure.

**Who will be elected:** A new President-Elect, five new Council members and three members of the Student Affairs Committee (SAC).

**Who is conducting the elections:** The Election Committee, chaired by Prof. Gabriel Wittum.

**Who can vote?** All current InterPore members.

**Nomination Committee:** In accordance with the InterPore bylaws, a Nomination Committee is formed, chaired by Prof. Tissa Illangasekare.

**Nomination deadline:** 13 September 2020.

**How to nominate:** Please volunteer to run for an office and/or nominate candidates now; please contact Tissa Illangasekare. Criteria for the selection of candidates by the Council are (1) personal
Student Affairs Committee (SAC) is looking for new members

Are you a BSc, MSc or PhD candidate? Or do you know a very talented young researcher in those categories? The Student Affairs Committee (SAC) is currently seeking nominations for three members for the 2021 committee. Nominations are open to all InterPore members (including members through Institutional Memberships) who are enrolled in porous media activities. You can nominate yourself or others (with their permission!).

Becoming a SAC member brings fun on a global scale and potentially boosts your career, either within the academia or within the industry. Check here the current SAC members and find out what joining the SAC committee meant to chairman Marcel Moura.

For nominations, please send the following info to Tissa Illangasekare:

**Name**
**Institution**
**Current Position**

A brief description of you/the nominee and why you/the nominee would like to be elected to the SAC (around 200 words).

The election will be held in November 2020, and all members of the InterPore community are encouraged to vote. The elected members of the SAC will be publicly announced in the InterPore newsletter. Elected members will be part of the SAC for 4 years. For more information about the SAC activities, you can reach the committee at sac@interpore.org.
A new InterPore chapter has been established: the **Saudi Chapter of InterPore**. The online kick-off meeting was held on the 20th of May, bringing together over 30 participants from various government agencies, universities and companies in Saudi Arabia and the Middle East.

The organization of the chapter has been approved and plans are being made to fill the available positions. Also, plans are being made to organize an international meeting. Progress updates of the Saudi Chapter will be provided through the InterPore Newsletter.

Interested? Please contact Dr. Gang Lei for more information.

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**InterPore Awards**

**Call for nominations: Rien van Genuchten Early-Career Award of Porous Media for a Green World**

Nominations for this award are being accepted now. The awardee should be able to participate in the next physical InterPore meeting (current timeline towards this meeting is yet unclear).

Deadline for submission of complete nomination package is **Monday, 15 June 2020**. Please notice that this deadline was postponed because of the COVID-19 pandemic.


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**Community News**

**Breathability of face mask materials in relation to the presence of melt blown fibers**

*Pietro Aceti, Franco Auteri, Luca Di Landro and Giuseppe Sala*
Many factories in Italy have started to produce face mask materials from non-woven material. The Politecnico di Milano set out to test non-woven materials that include melt blown fibers. Materials are tested for their breathability, followed by particle filtration efficiency and bacterial filtration efficiency. A large number of fabrics have been tested. Details of the measurements and some initial results are presented.

Full paper

Science Exhibition: Pretty Porous – Alles Porös

18 June – 20 August 2020, Planetarium Stuttgart, Germany

The SFB 1313 of the University of Stuttgart is pleased to announce its public porous media science exhibition "PRETTY POROUS – ALLES PORÖS" that will be shown in the Planetarium Stuttgart from 18 June to 30 August 2020. The exhibition is designed for the general public and will provide playful insights into the world of porous media and show how current research makes the invisible visible.

The science exhibition "PRETTY POROUS – ALLES PORÖS" of the Collaborative Research Center (SFB 1313) is realized in cooperation with the Cluster of Excellence EXC 2075 "Data-Integrated Simulation Science" (SimTech) of the University of Stuttgart and the State Academy of Fine Arts Stuttgart (ABK).

Rainer Helmig, spokesman of SFB 1313, and his team cordially invite you to the exhibition! The latest information on the exhibition and the accompanying lecture series can be found here: »

www.allesporoes.de

Numerical porosimetry: Evaluation and comparison of Yield Stress fluids Method, Mercury Intrusion Porosimetry and pore Network Modelling approaches

Antonio Rodríguez de Castro, Mehrez Agnaou, Azita Ahmadi-Sénichault, Abdelaziz Omari

Mercury Intrusion Porosimetry (MIP) is still today the reference porosimetry technique despite its environmental health and safety concerns. A safe alternative employs the Yield Stress fluids Method (YSM) in deducing the Pore Size Distribution (PSD). With the objective to evaluate the accuracy of the PSDs provided by YSM, three numerical methods to obtain the PSD from digital images are proposed and compared in this work: 1) direct numerical simulations of YSM tests, 2) pore network modelling and 3) simulated MIP tests.

Computers & Chemical Engineering, 133, 106662
Corresponding author: Antonio Rodriguez de Castro

Dynamic Pore-Scale Dissolution by CO2-Saturated Brine in Carbonates: Impact of Homogeneous Versus Fractured Versus Vuggy Pore Structure

Yongfei Yang, Yingwen Li, Jun Yao, Stefan Iglauer, Linda Luquot, Kai Zhang, Hai Sun, Lei Zhang, Wenhui Song, Zhiyu Wang

Preferential channels surrounded by branched channels were formed in the homogeneous sample, while fractures became the main flow path in the fractured sample. In contrast, only one dominant channel formed in the vuggy sample. The associated Damköhler number is significantly lower in the homogeneous sample, representing uniform dissolution. However, after injecting sufficient reactive fluid, this uniform dissolution pattern transformed into a single preferential channel growth. Generally speaking, increasing complexity of the pore geometry leads to more nonuniform dissolution.

Water Resources Research 56, e2019WR026112
Corresponding author: Yongfei_Yang (e-mail and ResearchGate)

Direct insights into the pore-scale mechanism of low-salinity waterflooding in carbonates using a novel calcite microfluidic chip

Mostapha Mohammadi & Hassan Mahani

In this paper we investigated the pore-scale mechanism of the LSWF in carbonates using a novel, double-side calcite microfluidic device. The results clearly show that when brine salinity is lowered, the microscopic sweep efficiency is improved, providing a direct in-situ evidence for wettability alteration to a more water-wetting state. We observed that the oil production was non-instantaneous characterized by a prolonged induction time and a slow “layer-by-layer” recovery either from the pore body or throat wall, a process we refer to as “peel-off”.

Fuel, 260, 116374
Corresponding author: Hassan Mahani
Assessing the Wetting State of Minerals in Complex Sandstone Rock In-Situ by Atomic Force Microscopy (AFM)

Sherifat Yesufu-Rufai, Maja Rücker, Steffen Berg, Sarah F. Lowe, Fons Marcelis, Apostolos Georgiadis, Paul Luckham

The effect of salinity on the adhesion of model non-polar oil components to the pore surfaces of a sandstone was studied using Atomic Force Microscopy (AFM). Adhesion forces between non-polar methyl components of crude oil and the sandstone rock surface measured in high salinity (HS) brine decreased noticeably in low salinity (LS) brine. The response of clay minerals to salinity changes depends significantly on their orientation within the pore space.

Fuel, 273, 117807
Corresponding author: Sherifat Yesufu-Rufai


Sherifat Yesufu-Rufai, Fons Marcelis, Apostolos Georgiadis, Steffen Berg, Maja Rücker, Johannes van Wunnik, Paul Luckham

The potential for a reducing fluid of sodium dithionite in seawater to alter the oxidation state of a sandstone and the associated effects on surface wettability were investigated by means of Atomic Force Microscopy (AFM). Adhesion forces between oil components and the sandstone rock surface decreased when measured in the reducing fluid, more significantly for polar components than non-polar in the order -NH2 (~70%) > -COOH (~36%) > -CH3 (~3%).

Colloids and Surfaces A: Physicochemical and Engineering Aspects, 597, 124765
Corresponding author: Sherifat Yesufu-Rufai

InterPore Members, do you want to promote your publication to the community? If so, please submit your highlight to newsletter@InterPore.org. Clearly indicate which of the authors is an InterPore member (or the institute with an Institutional Membership). Note that we will not review the entries nor does InterPore endorse the published work. Furthermore, we publish on a “submitted first, published first” basis. The highlighted publication should be no older than 6 months (available online).

The highlight should be short (500 characters) and contain an illustration. Please note that we offer this opportunity exclusively to InterPore members. If you would like to become a member, please have a look here.
### InterPore Calendar

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<th>Event</th>
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<td>30 August - 4 September 2020</td>
<td>The 12th annual InterPore meeting (Qingdao, China)</td>
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<tr>
<td>September 2020</td>
<td>The Hellenic National InterPore Chapter meeting (Athens, Greece)</td>
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<td>1-2 October 2020</td>
<td>The German Chapter meeting (Stuttgart, Germany)</td>
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<td>26-28 October 2020</td>
<td>The French Chapter meeting (Strasbourg, France) (Flyer)</td>
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<td>2 November 2020</td>
<td>The Benelux Chapter meeting (Enschede, The Netherlands)</td>
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<td>23-25 November 2020</td>
<td>The Australian Chapter meeting (Perth, Australia)</td>
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<td>31 May - 3 June 2021</td>
<td>The 13th annual InterPore meeting (Edinburgh, UK)</td>
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<tr>
<td>15-21 May 2022</td>
<td>The 14th annual InterPore meeting (Albuquerque, New Mexico, USA)</td>
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### Imprint

InterPore News, www.new.interpore.org
Published in electronic form by International Society for Porous Media (InterPore)
Circulated free of charge to members and non-members of InterPore.

Articles and news items on the study and characterization of porous media, especially when relevant to other types of porous media, are welcomed for publication in this newsletter, issued twice a month.

Find us on: LinkedIn | Facebook | Twitter
InterPore News 2020 (10) featuring lots of research news, a new national chapter, and elections coming up

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